

Energy storage using the phase change materials: Application to the thermal insulation

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Abstrak

The objective of the present study is to investigate numerically the problem of melting phase change material (PCM) containing paraffin where one of the area interfaces moves with time and wherein the result of the fusion between the coupling in the solid phase conduction and convection in the liquid phase, then processes the effect of integration of the material in the walls of the building in order to increase its thermal inertia to validate the result ,we will study the numerically transient and performance of a fixed bed filled with uniform spheres, randomly arranged and each containing a (PCM). So we use a two-dimensional theoretical model applied in two separate phases; it was used to predict the temperature distribution of the fluid and the fusible material along the bed in the energy storage method.